ARMY GROUND RISK-MANAGEMENT PUBLICATION

COUNTERMEASURE

VOL 20 NO 4 http://safety.army.mil APRIL 1999

POV Traffic
POV FATALITIES
THRU FEB FY 99: 53
THRU FEB FY 98: 51

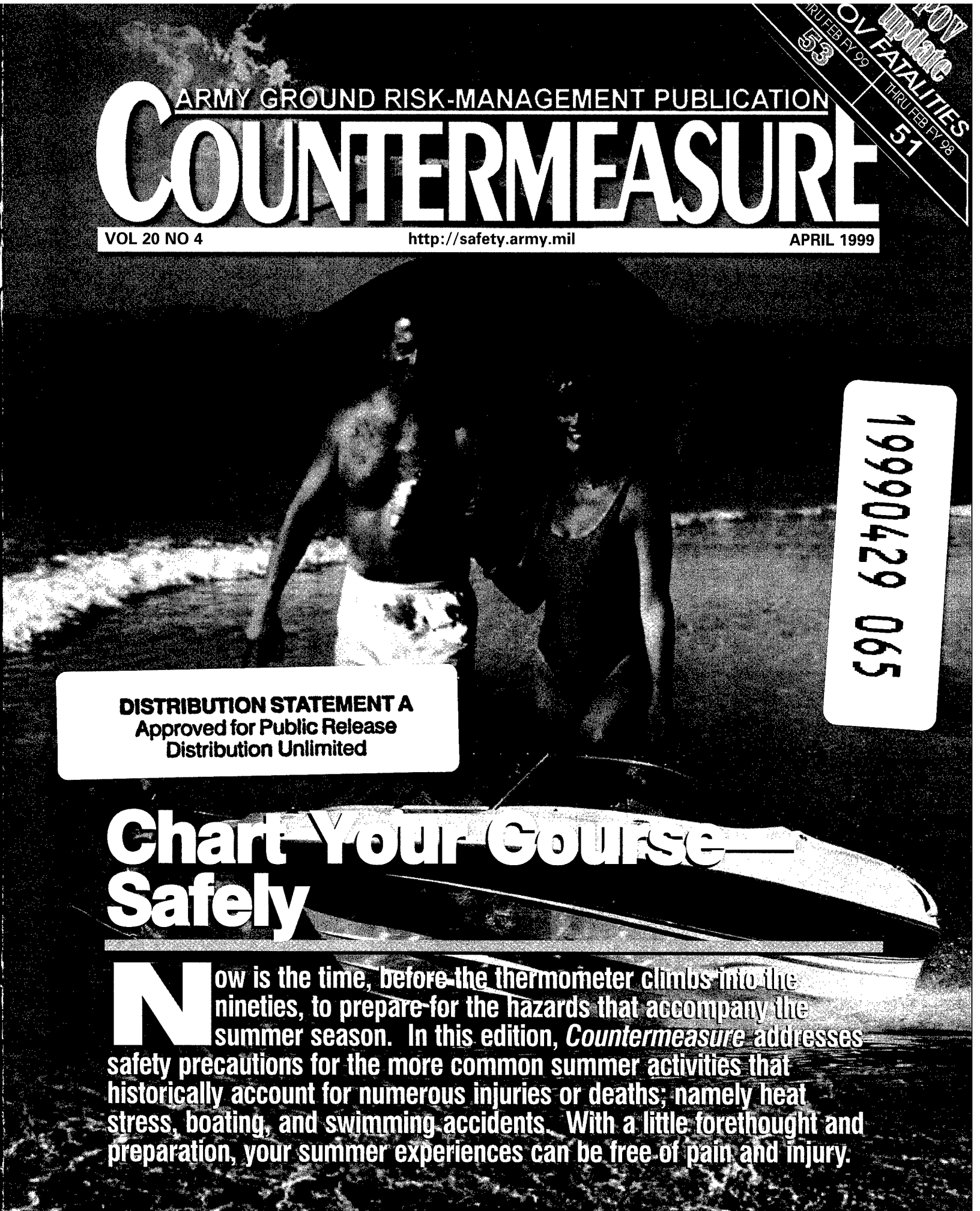


Chart Your Course—Safely

Now is the time, before the thermometer climbs into the nineties, to prepare for the hazards that accompany the summer season. In this edition, *Countermeasure* addresses safety precautions for the more common summer activities that historically account for numerous injuries or deaths; namely heat stress, boating, and swimming accidents. With a little forethought and preparation, your summer experiences can be free of pain and injury.

ARMY GROUND RISK-MANAGEMENT PUBLICATION

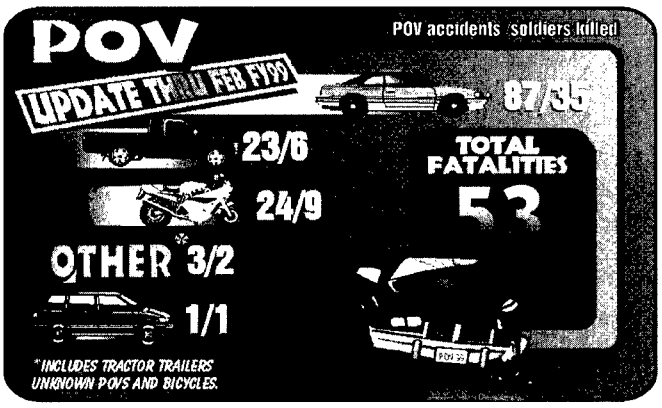
COUNTERMEASURE

The Official Safety Magazine for Army Ground Risk-Management

BG Charles M. Burke
Commander/Director of Army Safety
COL John S. Warren
Deputy Commander
LTC Pete Simmons
Publishing Manager
Paula Allman
Managing Editor
Mike Wilkins
Graphics/Layout

Features

From The Troops



U.S. ARMY SAFETY CENTER

Countermeasure is published monthly by the U.S. Army Safety Center, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use Fax 334-255-9528 (Ms. Paula Allman) or e-mail countermeasure@safety-emh1.army.mil Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at http://safety.army.mil

Charles M. Burke
Brigadier General, U.S. Army
Commanding Officer

Hot Weather Hazards

The icicles have melted and the snow has finally disappeared. No more preheating engines or scraping windshields. No more chopping firewood or fueling furnaces. Spring is here and summer is not too far away!

While it is true that with the passing of winter, cold weather problems have temporarily vanished; it is equally true that a new set is about to take their place. And these heat-related illnesses can be just as dreadful as any found in winter.

The effects of excessive heat and humidity on an individual can range from simple discomfort and reduced physical and mental efficiency to heat cramps, heat exhaustion, heatstroke, and even death.

■ **Heat cramps** are painful cramps of the muscles caused by excessive loss of salt from the body. Since water and salt losses cause dehydration and reduced efficiency long before any obvious sign of heat illness, ensuring an adequate intake of water is essential. The amount of water required depends on the amount of sweating that occurs and varies from one individual to another. Since thirst is not a dependable indicator, drink water frequently (a cup every 15-20 minutes—not to exceed 1½ quarts per hour). **Do not use salt tablets!** If cramps persist, dissolve ¼-teaspoon table salt in one quart of water, and have the victim drink it slowly.

■ **Heat exhaustion** is caused by excessive salt depletion and dehydration and is characterized by symptoms of profuse sweating, headache, tingling sensation in the extremities, weakness, loss of appetite, dizziness, nausea, cramps, chills, and rapid breathing. It is important to rehydrate the individual. Lay the victim in a cool, shady spot and elevate the legs. Pour water on him and fan to cool. If conscious, have him slowly drink at least one full canteen of cool water with salt solution.

■ **Heat stroke** is the most dangerous of the heat-related illnesses and can be fatal. Symptoms include mental status changes, psychotic behavior and confusion, disorientation or coma, throbbing headache, flushed dry skin, nausea, and elevated body temperature. The key differentiating feature between heat stroke and

heat exhaustion is mental status changes. **Immediate treatment and transport is required.** Cooling must begin immediately. Move the victim to shade and cool with ice packs. If packs are not available, soak or douse victim with cool water. Fan body and elevate feet. Do not immerse in ice water. Do not try to give water to an unconscious victim. Ensure cooling process is continued during transport to medical facility.

Preventive measures

■ **Fluid intake.** Adherence of work/rest/hydration guidelines is essential (see chart below). The practice of sustained "water discipline" ensures water consumption at regular planned intervals, and must be enforced regardless of individual preference or thirst. Avoid alcohol, coffee, soft drinks, and commercial sports drinks. These may increase an individual's water requirements.

■ **Acclimatization.** We can become accustomed to heat, but it takes time. Approximately 10 to 14 days are required. It is especially important to be particularly careful during the first few days of hot weather or the first few days after moving into a hot geographical area.

■ **Physical condition.** Infections, fever, recent illness or injury, overweight, dehydration, older age, fatigue, drugs such as antihistamines and cold medicines, alcohol, and previous heat injuries are conditions which may increase the risk of heat stress and cause heat injury.

■ **Work/rest schedules.** Physical exertion increases the amount of heat produced inside the body. Heavy work and activities that require a lot of physical exertion (marches/calisthenics) should be scheduled for early morning or late evening. Alternating work and rest periods helps. Avoid working in the direct sun and stay in the shade whenever possible.

■ **Clothing.** Proper clothing prevents radiant heat from the sun to be absorbed by the body. Consider wearing light-colored clothing because it reflects the sun's rays. Wear loose-fitting clothing to allow circulation of air and it also enhances the cooling evaporation of sweat.

Yes, winter has gone, and we can look forward to summer. But let's keep in mind the hazards associated with hot weather operations—and make certain this summer will be heat-injury free. **Safety First!** ♦

—Paula Allman, USASC, DSN 558-2688, (334-255-2688), allmanp@safety-emh1.army.mil

Fluid Replacement Guidelines for Warm-Weather Training (Average Acclimated Soldier Wearing BDU, Hot-Weather)

		Easy Work		Moderate Work		Hard Work	
Heat Category	WBGT Index °F	Work/Rest*	Water Per Hour	Work/Rest*	Water Per Hour	Work/Rest*	Water Per Hour
1	78-81.9	No limit	½ qt	No limit	¾ qt	40/20 min	¾ qt
2 (Green)	82-84.9	No limit	½ qt	50/10 min	¾ qt	30/30 min	1 qt
3 (Yellow)	85-87.9	No limit	¾ qt	40/20 min	¾ qt	30/30 min	1 qt
4 (Red)	88-89.9	No limit	¾ qt	30/30 min	¾ qt	20/40 min	1 qt
5 (Black)	>90	50/10 min	1 qt	20/40 min	1 qt	10/50 min	1 qt

*Rest means minimal physical activity (sitting or standing) and should be accomplished in the shade if possible.

Note 1: The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specified heat category. Individual water needs will vary ± ¼ quart per hour.

Note 2: CAUTION: Hourly fluid intake should not exceed 1½ quarts. Daily fluid intake should not exceed 12 quarts.

Note 3: Wearing body armor adds 5°F to WBGT Index.

Note 4: MOPP gear adds 10°F to WBGT Index.

Examples:

Easy Work	Moderate Work	Hard Work
● Walking hard surface at 2.5 mph, ≤30-pound load ● Weapon maintenance ● Manual of arms ● Marksmanship training ● Drill and ceremony	● Walking hard surface at 3.5 mph, <40-pound load ● Walking loose sand at 2.5 mph, no load ● Calisthenics ● Patrolling ● Individual movement techniques; i.e., low crawl, high crawl ● Defensive position construction ● Field assaults	● Walking hard surface at 3.5 mph, ≥40-pound load ● Walking loose sand at 2.5 mph with load

Note: Soldiers who are overweight, dieting, or past heat casualties are more prone to heat injuries. As a result, their activities must be closely monitored.
POC: MAJ Don Lundy, USASC Industrial Hygienist, DSN 558-2443 (334-255-2443), lundyd@safety-emh1.army.mil

Nautical Rules of the Road

The following tragedy is a lesson in boating safety

Two soldiers were having fun and enjoying the beautiful summer day when suddenly the 19-foot jet boat they were cruising in struck the wake of another boat. The boat launched into the air and hit the water with such massive force that it was totally demolished. One soldier was thrown from the boat and received minor injuries. The other soldier drowned, but wasn't found until 6 days later. Neither soldier was wearing a lifejacket.

Boating is great fun, but safety **must** be part of the plan to guarantee a good day on the water. Waterways are second only to highways as scenes of accidental deaths in the country.

According to the U.S. Coast Guard Station, Fort Pierce, FL, collisions between boats are one of the most dangerous and frequent mishaps on our nation's waters. In 1997, 2,581 boat collisions occurred nationwide—1,309 resulted in serious personal injuries and 80 resulted in fatalities. There were 827 collisions with fixed or floating objects—409 were serious personal injuries and 69 were fatal.

What is the problem? The major contributing factor, which is the same for boats and automobiles, is speed. It has been statistically proven that the number of collisions between vehicles (watercraft or wheeled) are reduced as speed is reduced.

Although the newer high-powered boats can reach speeds comparable to those of an automobile, there are no seatbelts or brakes on boats. To avoid collision, boats must either change their course or reverse their engines. Similar to rules used to prevent collisions on our nation's highways, there are navigation rules which are used to prevent collisions on our nation's and the world's waterways.

The 36 U.S. Coast Guard's Navigation Rules are specifically designed to help you prevent watercraft collisions. All mariners are required to know and responsibly apply these navigation rules when operating watercraft. A few of the most important are listed below.

- It is the mariner's responsibility to take the necessary actions to avoid a collision.
- Every vessel shall maintain a proper lookout using sight and hearing at all times.
- Every vessel shall proceed at a

safe speed in order for one to take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

■ Vessels that are approaching head-on shall alter course to starboard (right) so each will pass port (left) to port.

Wear Your Life Jacket—It's a Life Saver

The vast majority of boating accidents are caused by human error and not by the boat, equipment, or environmental factors. More than 60 percent of boating fatalities result from capsizing, falling overboard, or flooding/swamping. It is the sudden and unexpected in-water experience that turns into a fatal situation. Be prepared, a life jacket could be a life saver.

A vital part of boating safety is the personal flotation device (PFD) or life jacket. There are different types of devices and it is important to know the difference.

■ **Type I (off-shore life jacket)** provides the most buoyancy. It is effective for all waters, especially open, rough, or remote waters where rescue may be delayed. It is designed to turn most unconscious wearers face-up in the water.

■ **Type II (near-shore buoyancy vest)** is intended for calm inland water or where there is a good chance of a quick rescue. This type will turn some unconscious wearers face-up in the water. The turning action is not as pronounced as Type I.

■ **Type III (flotation aid)** is good for calm, inland water, or where there is a good chance for quick rescue. It is designed so the wearer can place himself in a face-up position. One may have to tilt the head backwards to avoid turning face-down.

■ **Type IV (throwable device)** is intended for calm, inland water with heavy boat traffic, where help is always present. It is designed to be thrown to an overboard victim and not to be worn. This type includes cushions and ring buoys. The law requires each vessel be equipped with a throwable flotation device in addition to required PFDs.

POC: SFC Charlotte Underwood, USASC Ground Systems and Accident Investigations Division, DSN 558-3530 (334-255-3530), underwoc@safety-emh1.army.mil

The Do's and Don'ts of Boating Safety

Following these simple do's and don'ts of boating safety will help you chart a safe course toward enjoyable boating.

- DO wear a life jacket. They float, you don't.
- DO know the water and environment you will be boating on.
- DO keep a good lookout while underway.
- DO shut your engines off when people are in the water near your boat.
- DO observe the nautical "rules-of-the-road."
- DO check the weather forecast before getting underway.
- DO keep a balanced load and a trim boat.
- DON'T overload your boat.
- DON'T stand up in a small boat.
- DON'T ride on the gunwale, bow, seat backs, or anyplace that is not designed for sitting.
- DON'T drink alcohol and boat.

These reminders all carry a consistent theme...use common sense when on the water! If you feel something is dangerous—it probably is. Accidents result from a chain of circumstances or behavior. Remember...Boat Smart from the Start! Wear Your Life Jacket! For more information and to access an on-line boating certification course, go to http://www.safeboatingcouncil.org

Editor's note: *Alcohol is prominent in recreational boating accidents. Operating a boat while intoxicated is illegal and dangerous. Many states have operating under the influence (OUI) laws. Depending on the state, blood intoxication levels range from .08% to .10% BAC to be consistent with their motor vehicle law. Violations of these laws could be detrimental to your career. Commanders' options range from a simple counseling to punishment under the UCMJ. Some personnel could lose their MOS or licenses necessary to perform their job.*

Personal Watercraft Safety

One of the increasingly popular ways to make waves across the water is the personal watercraft (PWC) or Jet Ski. The vessel's maneuverability, speed, and limited protection can be a dangerous combination. It is imperative that all PWC operators familiarize themselves with waterway rules. The following are laws and regulations with which all PWC operators must comply:

■ Federal regulations require that all PWC be registered and display a registration number in accordance with state and federal guidelines.

■ All operators and passengers must wear a personal flotation device (PFD) at all times during operation.

■ Unless a PWC has the self-circling feature, it must have an emergency cut-off switch (kill switch) with the lanyard attached to the operator. This will automatically disengage the motor if an operator is displaced from the craft or if the craft is not upright.

■ No person shall maneuver a PWC in a manner that endangers life, limb or property. Examples include:

-Weaving through congested vessel traffic at high speeds.

- Following closely behind or within the wake of a vessel towing a person(s) on water skis, a surfboard, or another water-sport device.

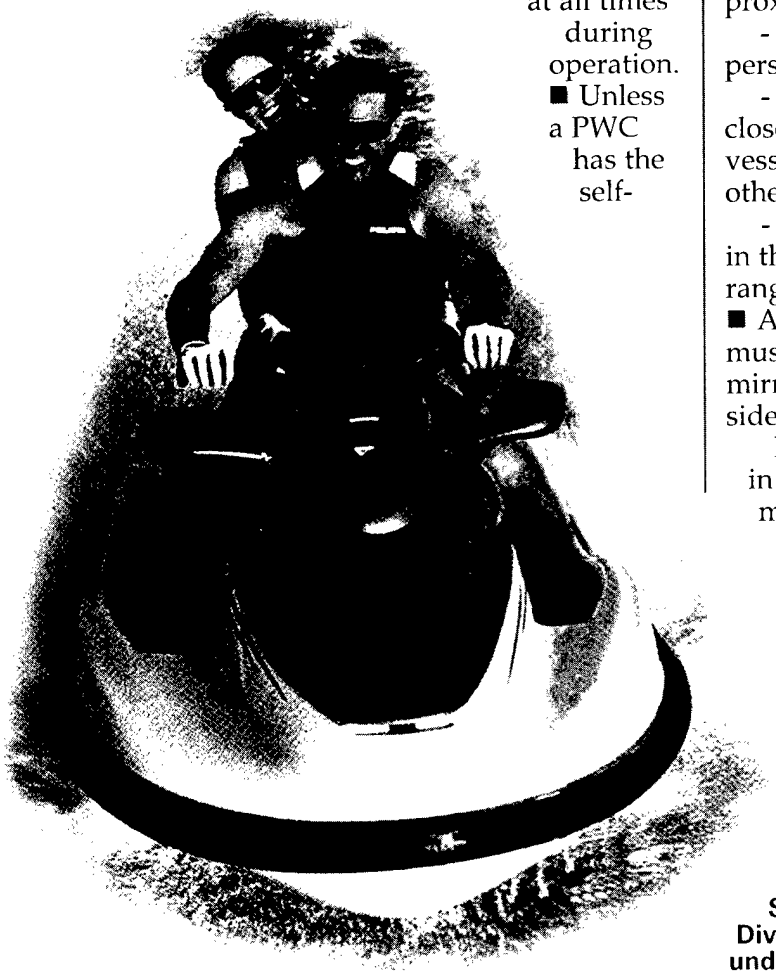
- Jumping the wake of another vessel traveling in the same direction in close proximity.

- Cutting between a boat and a person(s) being towed by the boat.

- Crossing at right angles when in close proximity to the stern of another vessel or when visibility around the other vessel is obstructed.

- Steering toward any object or person in the water and turning sharply at close range to spray the object or person.

■ All PWCs used for towing a person must be equipped with rear-view mirrors mounted on the right and left sides of the PWC.



In addition to the general regulations in effect for motorboats, PWC owners must also be aware that there are state and local laws and ordinances around the country that further restrict PWC operations. Make certain you know the laws that apply to you in your area of operation.

Let's have a great summer and remember that safety should be your top priority!

POC: SFC Charlotte S. Underwood, USASC Ground Systems and Accident Investigations Division, DSN 558-3530 (334-255-3530), underwoc@safety-emh1.army.mil

Swimming Tips

Drowning is the leading cause of fatalities involving water and boating sports. With the start of the summer season upon us, it's more important than ever to think about water safety. Don't think it can't happen to you. In fiscal year 1998, 13 soldiers were involved in boating and swimming accidents. Four were fatal.

■ Three soldiers departed the unit area for an evening of fishing and swimming. They launched the boat and cruised around the lake when they decided to beach the boat and swim for awhile. Suddenly one of the soldiers disappeared. It is believed he walked into a drop-off. Due to his poor swimming skills, he drowned.

■ A soldier consumed a heavy meal and then entered the pool. Soldier misjudged his swimming ability and moved to the deep end. The soldier was later pulled from the pool unconscious.

There are a few basic rules to always remember before jumping into the water.

- Rule number 1 is: Always swim with a buddy. Even the most experienced swimmer can be struck by a muscle cramp and need assistance.
- Swim close to shore and avoid areas where boating is heavy.
- Swim only in designated swimming areas.
- Check the area for stumps and debris before swimming or diving.
- Know the depth of the water and realize your limitations as a swimmer and do not exceed them.
- Avoid alcohol when swimming or boating. Alcohol impairs your ability to operate anything including your own body. ♦

Field The Heat

In the past year, there have been two high-intensity training incidents in which several soldiers suffered significant heat injuries. In one incident, 27 soldiers became heat casualties with 3 requiring hospitalization, and in another incident—one soldier died. Both incidents occurred during a road march testing event.

To successfully complete this voluntary training, the soldier is required to perform at a level that may exceed his level of conditioning for work in the heat. Prior physical conditioning training is essential and provides the soldier the best opportunity to successfully complete the 12-mile road march within the 3-hour requirement.

Commanders should require soldiers participating in high-exertional events, such as EIB and EFMB road march testing, to undergo preconditioning training as outlined in FM 21-18. Field Manual 21-18 states that with the proper 30-day preparatory training, soldiers can march 12 miles combat-loaded with 60 pounds of equipment in less than 3 hours. This FM also gives specific recommendations for aerobic conditioning, progressive load-bearing marches, a physical training program, and mandatory elements of any physical fitness program to achieve this level of conditioning. In other high-exertional training events where explicit preconditioning training is not addressed, the current work/rest cycle should be used (see chart on page 3).

Commanders must also ensure that soldiers receive the proper hydration, nutrition, and rest during any preconditioning training for high-intensity events. It is poor prior planning if hydration, nutrition, and rest become considerations the day of or the day prior to a high-intensity event. Poor prior planning can result in poor performance, unnecessary heat injuries and fatalities.

The Office of the Surgeon General is currently directing an effort to prevent heat injuries during high-exertional training. Until the results from this effort materialize, commanders must rely on the preconditioning guidelines in FM 21-18 and existing work/rest/hydration guidelines. ♦

POC: SFC Michael Williams, Ground Systems Division, USASC, DSN 558-2959 (334-255-2959), williamm@safety-emh1.army.mil

You Want To Be Like Superman?

Actors often portray quadriplegics, who are paralyzed from the neck down, and paraplegics, who have the entire lower half of their body paralyzed. Except for having to sit in wheel chairs until the show ends, they look normal and have well-toned bodies. That's because they're actors and are playing parts. But one actor isn't playing a part. He is Christopher Reeve, perhaps the most famous quadriplegic in the world. Reeve, who brought Superman to life on the screen, is still broad-shouldered and handsome, still has muscular thighs and a full chest, and seeing him in a tuxedo sitting in his industrial-strength wheelchair, you may think that life for him is not so bad after all.

Think again.

Reeve has written a book titled, *Still Me,* that tells how his life has changed drastically since May 27, 1995, when he fell from a horse during a jumping competition. For reasons he will never know, his horse, Buck, stopped suddenly in midjump. The actor was thrown headfirst into the top rail of the jump, breaking his neck and leaving him unable to move or breathe.

Reeve was taken to the University of Virginia Hospital in Charlottesville, where doctors devised a never-before-performed operation to reattach his skull to his spinal column. He had what is called a hangman's injury—the same trauma produced by being dropped through a gallows trapdoor with a noose around your neck. This kind of injury can also happen if you dive in shallow water, get knocked down in waves, fall off a motorcycle, slam into the roof or windows of a car during a wreck, or get ejected during a collision.

Despite having the best available medical care since his mishap,

Reeve has been in shaky health since his fall. Eleven times he has returned to the hospital, often with life-threatening trouble: pneumonia, a collapsed lung, two blood clots, and an infection that nearly forced doctors to amputate part of his leg.

In his book, Reeve describes what his life is like as a quadriplegic. There are days when the ritual of getting up in the morning and getting in bed at night takes five hours.

A nurse and her aide appear at 8 a.m. and serve him 20 pills—vitamins plus drugs to control spasms, keep his bladder from shrinking, and maintain bowel function.

He sleeps in arm and foot splints, and after being in one position all night, his joints and muscles are frozen. His arms and legs go into wild spasms when the splints come off, and it takes the full power of the nurse and the aide to hold them down.

Then follows the morning hello from his 5-year-old son and an hour or so of "ranging"—the slow manipulation of his limbs by the nurse. This prevents atrophy, for as Reeve notes, you can't stand or walk with atrophied leg muscles. *[Reeve has vowed to walk again by the time he turns 50. That will happen in September 2002 – Ed.]* After that, he's ready to be dressed. "When two people have to roll you back and forth in order to put on your underpants at age 45, it's a difficult lesson in acceptance," he writes.

"I used to have to control my anger with myself for having ended up in this situation. Often I listen to music or watch TV so I don't have to think about being taken care of like a baby."

Frequently through the day, he blows into a little tube that's placed before his face. This causes the chair to shift his weight, helping prevent the ulcers that are a constant worry.

The nighttime ranging is almost pleasant after so many hours in the chair, but it is followed by perhaps the hardest part of the day: the "bowel" program.

"I'm turned on my side, and the aide pushes on my stomach with his fist to force stool down through the intestines and out onto plastic sheets placed under me. Sometimes it can take nearly an hour...It seems like an eternity."

Reeve takes a sedative to control nighttime spasms and finally drifts off to sleep.

That's how a privileged person with the resources to pay for round-the-clock nursing care at $40 an hour spends his days. That care costs him $960 a day or $350,400 a year. He has three medical-insurance policies, one of which has run out. And his exercise equipment cost him more than $100,000.

Think first before you dive into shallow water, before you drive without a seatbelt, or before you ride a bike without PPE.

Most people don't have these resources. Neither do most of the soldiers and civilian employees of the Army. In the past 5 years, 51 soldiers have suffered hangman's injuries (also known as permanent total disability to the Army) and are quadriplegics or paraplegics. A few of those accidents include:

- Specialist received a spinal injury from diving off a pier and struck an object in the water.
- Captain broke his back and compressed his spinal cord when he flipped over the handlebars riding his mountain bike.
- PFC broke his neck while diving into shallow water of a swimming pool.
- PV2 suffered a spine fracture when he lost control of his motorcycle and struck a guardrail.

How would you fare if you were in the same situation as Christopher Reeve? Think about this before you dive into shallow water, before you drive around without being buckled up, or before you ride that ornery bull at an amateur's rodeo.

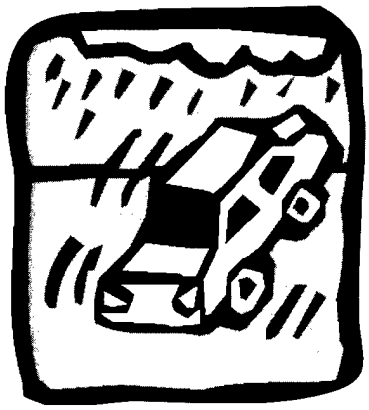
It could change your life faster than a speeding bullet.

—Adapted from Ashore Safety Magazine

Water, Water Everywhere

There is a certain charm to a misty, rainy day. It provides an excuse to stay inside and putter or just laze around and do nothing. However, the charm ends the minute you leave your home and turn on the ignition to your automobile. Roadways made slick by water or obscured by mist and fog present a serious threat to safe motoring. We can never eliminate the hazards of rainy weather driving, but the dangers can be minimized by observing the following safety procedures.

Rain-slicked roads. Some of the most dangerous moments occur in the first half-hour of rain. Water mixed with dust, road oils, and grease can create a surface as slick as ice. In a light rain, it may take several hours to wash away this slick surface.



When driving in rainy weather:

- Drive cautiously. Accelerate and slow down gradually.
- Allow extra following distance. The normal "2-second rule" employed in good weather driving should be increased to a more cautious "4-second rule." When the vehicle in front of you passes a landmark, it should take you 4 seconds to reach the same spot.
- If you encounter a large puddle at slow speeds, place your left foot lightly on the brake pedal while you accelerate slowly with your right foot. This procedure helps keep water from the brake linings. If the brakes become wet and less effective, apply light pressure to the brake pedal. The friction creates heat that dries the brake linings.
- Slow down before you get to wet leaves.
- Turn on your headlights. You'll see better, and others will see you. NOTE: In some states, it's the law!
- Use your defroster to keep the inside of your windshield clear.
- Be sure your windshield wipers are clean and smooth. Change them annually in the fall to avoid streaking during bad weather.
- Make sure you have washer solvent in your container.
- Be especially alert for harried pedestrians.

Hydroplaning. Hydroplaning occurs when the tires on your car lose contact with the road surface and ride on a wedge of water between the tires and the road. At that point, you may lose your ability to steer or brake. Lighter cars are more likely to hydroplane.

To avoid hydroplaning:

- Replace worn or balding tires.
- Slow down. Hydroplaning rarely occurs at speeds under 30 mph.
- Avoid puddles, especially on curves.
- Try to drive in the tracks of the car in front of you (but don't tailgate).
- If your car does hydroplane, do not apply the brake. Take your foot off the gas, and turn your wheels in the direction you want to go until you have regained control. If your car is equipped with an antilock brake system (ABS), keep your foot firmly pressed on the brake pedal while braking. This will allow you to maintain steering control and avoid skidding.

Fog. On 11 December 1990, a fog bank on a Tennessee highway resulted in a 99-vehicle pileup that killed 12 people and injured 42 others. According to the National Transportation and Safety Board, there are about 700 fog-related highway fatalities each year.

The best advice in fog:

- If you drive into a patch of fog, slow down gradually so the car behind you has time to slow down as well.
- To heighten your awareness in murky surroundings, open your window part way and turn off the radio.
- Turn on your windshield wipers and the defroster.
- Stay patient. Do not pass.
- Don't hunch forward over your steering wheel. You'll see better in your normal driving position.
- Use the right side of the road for guidance.
- If the fog gets too dense, pull off the road, leave your headlights on, start the flashers, turn on your interior lights, and sound your horn occasionally.
- Stay home until the fog has lifted.

—Adapted from Safety Times

Prepare To Take Cover!

Thunderstorms and their offspring—hurricanes, floods, and tornadoes—are not as consistently lethal as those high-charged bolts from heaven known as lightning.

Now that summer is tumbling the weather fronts around, the chance of thunderstorms with cloud-to-ground lightning increases. The most dangerous period is from March through August, when air masses are unstable—the same period when soldiers are doing increased field training.

In the last ten years, 15 soldiers have been killed and over 250 injured by lightning strikes. Most of these strikes occurred in an open field environment. Frequently, victims have been under large trees, in water, on or near hilltops, in unprotected fields, and often operating electrical equipment.

Controls that leaders and soldiers can use to reduce the hazards when caught in electrical storms include the following:

- Avoid hilltops, trees, and watery areas.
- Drop metal tools or equipment. Don't retrieve them until after the storm passes.
- Look for shelter in low places.
- Drop to knees, bend forward, and put hands on knees. **DO NOT** lie flat or place hands on the ground.
- Indoors, avoid using appliances, power tools, telephones, computers and electric typewriters. Also, avoid baths, open porches, and balconies.
- Know first-aid procedures, especially CPR. Even mild exposure can cause unconsciousness or painful burns. Lightning strike victims should be given immediate medical attention.

Some organizations have addressed adverse environmental conditions; i.e., lightning, tornadoes, snow/ice in their garrison SOP and have incorporated an annex in their tactical SOP. Leaders should communicate these SOPs to the soldiers so everyone is aware and prepared.

Nine out of ten people struck by lightning survive the event. But nearly 25 percent of these survivors suffer long-term psychological or physiological trauma. The best defense against lightning is preparedness. ♦

Tip: Beware of sheltering under tall trees during a storm. Lightning takes the shortest path and hits the highest object.

TAG-YOU'RE IT!

From The Troops

Keep Your Fingers To Yourself

I have been an experienced boater for almost 15 years and love the water. I have the utmost respect for the water. It was put there for us to enjoy.

One evening, my wife and I went out for an evening cruise and came back to the marina around 2000. The sun was just barely going down. I backed my boat alongside the dock, turned my engines off, and my wife stepped off the boat onto the dock. Without warning, she lost her balance and fell into the water.

Now keep in mind that the boat was moving with the current towards my wife. I immediately reacted and jumped off the boat from the stern to save her, but with one small problem. On the back of the boat, I have a fishing rod holder. You guessed it! My left ring finger caught a bolt that was sticking out and pulled my ring, with my finger still attached, right off. All that was left of my finger—from the base to the tip—was the bone. I did not realize this until I came up out of the water with my wife and got her safely in the boat.

If I had thought first before reacting, this would not have happened. There were six life jackets and one life ring not more than two feet from me. I guess what I'm saying is, "Don't ever say never. It can't happen to me." Because it can. I have said the same thing many times before.

Since the accident, we have taken preventive measures to make sure this never happens again. For example:

- Wear a life jacket. It's the first line of defense.
- Wear light rubber-soled shoes. Ensure shoes have a good grip on the bottom for walking around water and won't weigh you down if you fall in.
- Secure a rope or safety line between the boat and the dock to help keep your balance.
- Always think safety first.

I have truly learned a valuable lesson. I would not want anyone to go through what my family or I have gone through. What started out romantic ended up tragic very quickly. ♦

POC: SGT Joe Katz, 450th Transportation Battalion, U.S. Army Reserve Training Center, Manhattan, KS (785-776-7170, ext. 122).

Quickbits

Safety Precautions for Users

Over the years, concern about electrostatic discharge (ESD) has resulted in various alerts to users of possible static discharge from the camouflage cold weather parka (NSN 8415-01-228-1306 series) and trouser (NSN 8415-01-228-1336 series). These items are worn as the outer garments to the extended cold weather clothing system (ECWCS). Recent research, however, has shown that soldiers wearing ECWCS or other garments made of synthetic fabrics during operations such as conventional ammunition, munitions, or missile handling should not present a hazard. The one possible exception to this concerns 20mm and 30mm rounds containing the ESD-sensitive M52 electric primer. Users of these items and specialty munitions or explosives should always follow the guidelines in appropriate technical and field manuals.

—Mr. Paul G. Angelis, System Safety Engineer, U.S. Army Soldier, Biological and Chemical Command, Natick, MA, DSN 256-5208 (508-233-5208), pangelis@natick-emh2.army.mil